

THE PSYCHOLOGICAL BULLETIN

METHODOLOGICAL IMPLICATIONS OF THE MIND-MATTER CONTROVERSY.¹

BY PROFESSOR H. HEATH BAWDEN, *Vassar College.*

THE BEARINGS OF THE CONSERVATION DOCTRINE.

The bearing of the conservation doctrine on the problem of mind and matter is bound up with the twofold meaning of the term 'causation.' Professor Strong holds that 'the causal relation necessarily implies sequence,' and that if two events were simultaneous they could not be causally related.² Recent science and metaphysics, on the other hand, have exhibited a tendency to substitute a conception of pure continuity or identity for the idea of sequence. "If this process could be applied throughout," says Professor Höffding, "we should reach the paradoxical result that the complete explanation of causality involves the very abolition of the causal concept; for the causal relation is only differentiated from the purely logical relation of identity between cause and effect by the temporal difference between the terms."³ This distinction between the empirical and the logical notions of causation, according to Professor Hyslop, is the same as that between efficient and material causation.⁴ On the confusion of these two different points of view rests, he says, the apparent triumph of the theory of psychophysical parallelism. Probably the other writers would agree with Professor Höffding that "an equivalential relation does not exclude a qualitative difference, but directly presupposes it" (p. 103), *i. e.*, that it is impossible to free ourselves from the historical elements in our knowledge.

¹ This number has been prepared under the editorial care of Professor Bawden.

² *Why the Mind Has a Body*, pp. 68-69.

³ *Philosophical Problems*, p. 95.

⁴ *The Problems of Philosophy*, Chapters X. and XI.

But the fundamental problem methodologically concerns the significance respectively of these two conditions and demands of knowledge: the historical and the logical, the genetic and the analytic, sequence and identity. An analysis of the principle of conservation ought to throw light on this point. If quantitative continuity is impossible apart from qualitative discontinuity, then these opposed aspects of sequence and identity represent only a functional distinction and the argument for parallelism as it is commonly understood undergoes a vital transformation. Professor Hyslop, for example, maintains that the conception of an efficient causal nexus between the physical and the psychical "is quite compatible with a difference of their nature and may be necessary to accept the unity of action with that difference which we actually observe" (p. 452). Modern materialism, he says, means the substitution of the idea of material, for the idea of efficient causation in the interpretation of the relation between the physical and the psychical (p. 398; cf. p. 451). His discussion of this point is suggestive and may be quoted at length.

"But the strange part of the controversy at this point is that the procedure of the parallelist and materialist alike was the abandonment of the position which each should have taken. If the materialist had accepted the conclusion of the spiritualist, as he should have done, and if the spiritualist had accepted the materialist's theory of conservation, both would have come to an agreement and left nothing but a difference of terms to distinguish between their views. The spiritualist ought to have seen that his argument against materialism, as a denial of the persistence of consciousness, depends for its effectiveness upon the acceptance of the materialist's doctrine of the conservation of energy, and that the materialist was wholly inconsequent when he insisted upon the integrity of his traditional theory after assuming the identity of the mental and the physical, or a material causal nexus between them. If the physical is convertible with the mental, as this material causal nexus assumes, then motion and consciousness are identical, and the persistence of the one implies the equal persistence of the other. The eternity of matter and motion must imply the eternity of consciousness, because there can be no distinction, by hypothesis, between it and motion. We cannot reduce them to identity without admitting the force of what is meant by 'consciousness' as well as 'motion.' What the materialist thought he could do with impunity was to identify the two things and deny the previous implications of 'consciousness' altogether, or affirm their identity by assuming the falsity of their difference and yet retain the implications of universalizing 'motion'

without recognizing 'consciousness' at all. But he cannot do this on any theory of material causation alone. He must accept 'consciousness' in the system with all that it means and consider that 'motion' abstracted from 'consciousness' no more exists independently than 'consciousness' without 'motion.' The materialist ought to have seen that his application of the conservation had involved a total abandonment of the position for which his theory had traditionally stood" (Hyslop, *The Problems of Philosophy*, p. 403).

The materialist 'must either reconstruct his method or concede the limitations of the conservation of energy' (p. 403). All that the arguments for parallelism have proved is the inapplicability of the principle of material causation or identity to this relation. The possibility of efficient causation or real productive agency remains untouched. And the principle of conservation of energy, for the same reason, since it is only a formulation of the fact of identity on the quantitative side within the physical world, does not affect the possibility of qualitative changes. "In the entire organic world of living beings and the inorganic world of chemical compounds, science has found a system of metamorphoses due to chemical laws that exhibit almost any capacity to exercise functions or to manifest attributes not found in the elements. This is a conception that is wholly independent of the doctrine of the conservation of energy, because the facts represent qualitative changes for which there is no pretense of explanation by that doctrine" (p. 463). Thus parallelism does not meet materialism so far as it is based on efficient causation.

"Parallelism thus fails to achieve its desired victory simply because materialism depends upon more than one assumption. As has already been remarked when discussing materialism, the proper course of parallelism was not to have denied the materialist's application of 'mechanical' or material causation, but to have pressed its *ad hominem* value for logical deductions which were just the contrary of what the materialist supposed, instead of conceding an assumption about the reducibility of all physical 'phenomena' to modes of motion which ought never to have been granted and instead of accepting responsibility for an *ad rem* argument to prove that consciousness was not such a mode, a negative proposition which can never be proved. In other words, the parallelist ought to have exposed the contradiction between the materialist's principle and his conclusion, the first being different from and the second being the same as the old materialism. The metamorphosis of the old materialism having been abandoned in the conception of the conservation of energy, the same conclusion should not

have been drawn. The parallelist should have accepted the challenge which the conservation of energy presented and instead of trying to limit it he should have pressed its necessary consequences, applying it with the universality which was claimed for it, and thus insisted that the qualitative change involved in the process of evolution involved no loss of identity whatever on the theory, and hence that consciousness was as much an element of the antecedent as the antecedent, motion, was an element of consciousness. The assumption of material causation with its implication of identity between the two terms of the series would have obliged the materialist to admit in the antecedent the same fact that he found in the consequent. There would have been absolutely no escape from this conclusion short of an abandonment of the qualitative interpretation of the conservation of energy. The materialist cannot apply material causation or identity to the relation between physical and mental 'phenomena,' or motion and consciousness, without accepting in it the full meaning of consciousness, the second term of the series, as well as the physical, the first term — that is, without admitting that the physical is as much of the nature of consciousness as the mental is of the nature of motion. The last term in the series of evolution, on the theory of conservation, has at least as much significance as the first and actually must be said to have been contained in it, so that the materialist cannot admit a qualitative difference of any kind between the terms of this series without giving up the universality of his explanatory principle. He cannot, on the theory of conservation interpreted as implying qualitative identity between the antecedent and consequent, exclude consciousness from motion and introduce it as a new moment in the series. He must make as much of consciousness as motion and treat their identity as his principle requires, instead of implying their identity in one breath and denying it in another" (pp. 463-465).

REALISM AND THE RELATIONAL THEORY OF CONSCIOUSNESS.

A number of recent writers have united in conceiving consciousness as a relation or a type of relationship. This is so obvious a meaning of the term that the full significance of it methodologically is apt to be overlooked: we look for something more imposing and mysterious perhaps.

Professor Dewey has recently done for the terms of 'conscious' and 'consciousness'¹ what he had previously done for the word 'idea':²

¹ *Journ. of Philos., Psychol. and Sci. Methods*, III., pp. 39-42.

² *Same Journal*, I., pp. 175-177.

on the basis of a study of Murray's Oxford Dictionary he sets forth the leading types of meaning which these words represent and convey.

In this article on 'idea' he sums up his discussion with this question: "Are there really and truly any such independent psychical entities as the Lockean ideas, or have we in ideas as just psychical *simply a more adequate methodological device for facilitating and controlling knowledge?*" (italics ours). In this sense (which Professor Dewey credits to Professor James), an idea is any content of experience which is used as an intermediary for getting another content, or, to use his own words, "the idea is a mental state for the sake of referring easily and fluidly to *any* object in *any* phase, and thus freeing and facilitating our intercourse with things."

In the article on the terms 'conscious' and 'consciousness' the same point of view is manifest. The word 'consciousness' originally meant joint or mutual awareness—a social fact. *Con* + *sciousness* meant two-persons-knowing-together. It then comes to mean *being conscious to one's self*. Here the idea of 'together' contained in the 'con-' is equally prominent: the agent is reduplicated, as it were, and we have self-consciousness. The individual is cognizant of himself in another capacity: his present cognitional attitude has for its content the memory of himself in a practical or some other non-cognitional attitude. The original social significance of the 'con-' has been carried over into the individual: he is a socius. Consciousness thus comes to be the mark of (socialized) persons as opposed to (unsocialized) things. Finally, consciousness comes to mean the 'condition and concomitant of all thought, feeling and volition,' and this 'condition and concomitant' is hypostasized as mind, soul or subject. The fact of togetherness of the contents of experience is erected into a separate realm of being. The relationship is entified, is converted into a separate substance or reality. When this transformation has been wrought, the term 'consciousness,' as Professor Dewey remarks, 'begs as many metaphysical problems as is likely ever to be the privilege of any one word.'

Professor James has summed up his position in a brief article in the *Archives de Psychologie*, entitled 'La Notion de conscience.'¹ Consciousness, he says, as this term is ordinarily used, does not exist; it exists no more than does the matter that Berkeley demolished. What does exist and is rightly expressed by this term 'consciousness' is the capacity that the contents of experience have of being recalled or known. This capacity is explained by the fact that certain experi-

¹ Vol. V., No. 17 (June, 1905).

ences serve as intermediaries for relating other experiences which, when thus connected, figure on the one hand as things-known and on the other as subject-knowing. This dual functioning of its contents may be stated wholly in terms of experience, without invoking any transcendent reality. This distinction of object and subject, represented and representative, thing and thought, is a functional, not an ontological one. Things and thoughts are not fundamentally heterogeneous: they are made of the same stuff, the stuff of pure experience or experience in general. Mind, as Professor Santayana hints, is a sort of fore-shortening of experience: mind is 'knowable and important in so far as it represents other things.'¹

In other words, his theory, in place of the dualism of consciousness as an essence, entity or pure spiritual activity, on the one side, and the contents of that consciousness, on the other, supposes the existence of the content only. In place of the dualism which makes the fact that the contents of experience go together in a certain way into an ontological existence, he substitutes the conception of consciousness as *the way in which we have this content*, the experiencing of this content under certain conditions.

This idea has been expressed by the present writer by insisting on the functional character of the distinction: consciousness is the process as contrasted with the content of experience, the How as opposed to the What. It is the distinction between *what* we experience and *how* we experience it: consciousness is the way in which we get or have the content. Theoretically any content may serve as the bridge over to any other content. Anything may serve vicariously for anything else. All symbols or media were originally contents having intrinsic value. Their transgredient reference grows out of the function they serve as handles or hints or cues or clues to something else. Certain parts of experience come to serve this end of mediation with relative permanency, such as gestures, words, ideas; and these by a methodological hallucination have been given an independent existence as realities in their own right, whereas their independence is one of function only, not of existence. Consciousness is not an entity but a function, not a distinct content but the law of the process by which the contents go together in certain ways.

Professor Stratton virtually makes this the differentia of the mental and the physical when he says that 'mental and physical existences are to be distinguished by their behavior.' "When I look at the paper on my desk I say that I have before me both a psychological fact and

¹ *Reason in Science*, p. 164.

a physical fact, because these are two things which behave in different ways. The psychological fact, the visual appearance, may be destroyed by a mere wink of the eyes, and called into life by opening them. The physical object can be destroyed by fire, and I do not know how it can be restored at all."¹ The illustration of the 'paper' is reproduced because Professor Stratton here does not seem to be true to the functional principle which he has himself invoked. When I look at the paper before me I am not conscious of two sets of facts. So far as vision is concerned, the paper (not the mental fact, but the paper as a physical fact) is there or is not there according to whether all the conditions of its being there are present or not (in this instance, according to whether my eyes are open or not). There are no adequate grounds for asserting that the visual paper, which I may annihilate and recreate at will, is any less physical than the paper as it is for touch or for kinæsthetic sense.

But although the particular illustration may not stand, Professor Stratton's principle seems to be a sound one and the only one possible in a genetic psychology: the difference is one of behavior or function. There is a lack of continuity in the mental experience or, as Dr. Perry puts it, an imperfection.² The criterion of the psychic is found in the disorganization and reorganization which an experience undergoes in its metamorphosis from one 'objective' plane to another. Suppose the ink-bottle which stands on the table before me appeared and disappeared unaccountably and capriciously. Suppose at some times it were visibly present and at other times its place were visibly empty. Suppose that at some times I could feel it and dip my pen into it but at other times I could get no such response. I would conclude that the ink-bottle was an illusion or that some one was playing a trick upon my senses. If sometimes I could ink the tip of my pen in this fitful ink-bottle and at other times the same act left it dry, I should either look about for the practical joker or suspect myself of some strange pathological hallucination. I should relegate the experience to the realm of the mental or purely subjective. Now this might not be a correct inference at all, but it would illustrate how the category of the mental as a distinct realm has arisen. The essence of the physical nature of the object appears to be its relative stability or permanence for certain purposes, for certain sense-coördinations. If I could not always see it but could always feel it I should unhesitatingly attribute its capricious visual character to a defect in my sight, but still regard

¹ *PSYCHOLOGICAL BULLETIN*, III., p. 2 (January 15, 1906).

² *PSYCHOLOGICAL REVIEW*, July, 1904, p. 282.

it as having objective physical reality. But if it should elude touch and resistance as well, it would become either nothing at all, or if I still had an intermittent experience of it, I should be inclined to relegate it to the purely mental sphere of illusions or hallucinations.

M. Binet in his *L'Ame et le Corps*, as will be seen in the review which follows in this issue of the BULLETIN, emphasizes this same character of imperfection in the phenomena which are called mental: it is the still incomplete world of our experience. But Professor Höffding, on the other hand,¹ protests against the alleged discontinuity of consciousness, which is thus contrasted with the continuity of matter. He holds that our conscious life forms a totality, a continuum, a little world for itself. Mental phenomena 'do not present such great discontinuity or such pure qualitative differences as is often believed' (p. 39). It is interesting to note, however, that even on his identity hypothesis such qualitative differences and such discontinuity remain a methodological surd (cf. pp. 31-32). The realistic implication of his critical monism is evident when he says that 'the empire of being may be much vaster than the possibilities of our experience' (p. 143), and when he says: "Knowledge, however rich and powerful it may be, is after all only a *part* of Being" (p. 114).

Professor Woodbridge has expanded the idea of consciousness as a relation in its avowed realistic implications in his article on 'The Nature of Consciousness.'² Consciousness, he says, is a kind of continuum. "The relation of the world of which there is consciousness to consciousness involves the same kind of problems as the relation of objects in space to space, or the events in time to time. We do not ask if space and time affect their objects causally. We should not raise the question of the causal efficiency of consciousness. We do not ask how things get into space, so we should not ask how objects get into consciousness" (p. 120). "Consciousness may be defined, therefore, as a kind of continuum of objects" (p. 121). In an utterly naive experience things are apprehended no more as external objects than as subjective mental states: they are immediately appreciated values. They are neither things nor thoughts but states or acts. I am no more immediately aware of objects as states of consciousness than I am aware of things as states of space. The experience of things in a consciousness continuum is as much a secondary and derivative experience as the experience of things in a space or time or species conti-

¹ *Philosophical Problems*, p. 26 f.

² *Journ. of Philos., Psychol. and Sci. Methods*, Vol. II., No. 5 (March 2, 1905).

num. They are all alike in belonging to the reflective type of experience.

But may the consciousness relationship, as the realists assert, have an existence independent of the objects or terms related? Professor Woodbridge admits that consciousness 'is found to exist only when it has a content' (p. 119), but he insists that the objects "stand out as the objects *of which* there is consciousness, but never as the consciousness itself. Just as objects in the light are not the light, so objects in consciousness are not the consciousness. There is thus a distinction between consciousness and its objects" (p. 119). If he means this only as a methodological distinction, this certainty is true, but if he means it, as his other statements seem to suggest, in the sense of realism, it does not seem to the present writer to be true. The distinction is true only for the specific situation. The distinction arises only when the problem arises of passing from one content to another. Then consciousness itself is objectified; it is treated as a bridge over to another content. It is only for the psychologist that this distinction tends to become a permanent one, since it is he alone who is interested in trying to find out what consciousness is in itself.

Here is a spinning top. We cannot ask what the spin is apart from the top: it would be like asking for the grin without the cat. We cannot drain off the relation on a wire like an electric current or skim it off like cream from a pan of milk. Try to catch the spin and you stop it and what do you have? The top? Yes and no! No, since a top which is not spinning is not the full reality of a top: you simply have a permanent possibility of a top, a potential top, since a top is something which spins. Stop the spin and you get something, to be sure, but it is not top. We call it a top, but only as an artifact, if we think closely. Similarly, as Professor Baldwin has pointed out, a microscopically thin slice of the cortex of a human brain is not brain, since you have killed it in order to study it. A brain is not its full reality as a brain except when it is conscious. Matter is not its full reality as matter except when it is thinking. The converse, of course, is equally true, that just as it would be foolish to attempt to state the spin apart from the top, so it would be absurd to attempt to state consciousness apart from brain. Mind apart from matter likewise is an artifact. Attempt to state what mind is as a content and you always get a physical statement. Investigate the nature of an emotion, a sensation or an idea and you find nothing but what is statable in physical terms. Matter is simply mind construed, interpreted, just as the 'top' is what you get when you take hold of the spin to see what it is like.

Just as the reality in the one case is the spinning-top or the top-spinning, so the reality in the other case is matter-thinking or thought-finding-hands-and-feet.

Professor Woodbridge says: "Just as it is possible to find out about things much that is interesting which does not depend on the fact that they are in space, so also it is possible to find out much that is interesting about objects which does not depend on the fact that they are in consciousness" (p. 120). But this does not recognize the obvious fact that 'finding out things that are interesting' is simply an instance of this togetherness of contents of experience which we mean by consciousness. The category of consciousness or the knowledge category occupies a unique position in relation to all the other categories, not in being a distinct category in kind, but in being, as the idealist holds, the key to all the other categories. It is not simply one relation among others: it is relationship as such, the *sine qua non* of all the others, the keystone in the arch of relations. It is functionally the category of categories. The relation of the content or object of consciousness to, in, by or for consciousness is the key to its relation to, in, by or for space, time, species or any other continuum distinguished by reflective thought. Indeed, the consciousness continuum would seem to be nothing more than a generic name for these other continuums. When one wishes to speak of the bare fact of the way the contents of experience go together without specifying any particular way such as space, time, etc., we resort to the concept of the consciousness continuum. The space, time and other continuums are simply specifications of this general conception of experience as process. For example, the physiology of the brain is simply a specification of the consciousness relation in spatial and temporal terms: it is finding out how certain contents of experience go together to produce the experience which I have — not only in terms of the feelings and sensations which because of a lack of objective control I call mine, but also in terms which can be controlled and stated and which, therefore, are socially accessible, statable and verifiable.

The statement, therefore, that 'two continuums of the *same* kind cannot be parts of each other,' that 'they stand over against each other as closed systems,' is no argument for 'the isolation for any individual consciousness' (p. 121). Indeed, two continuums of the same kind are not conceivable, in the strict sense in which the term must be used in such a discussion as this: they would constitute one continuum, not two, if they were really of the same kind. The whole point of framing the notion of a continuum is to reduce like things to uniformity.

It is the differences between things which leads us to the conception of different continuums, not their likeness. If consciousness is a continuum, there is but one such continuum, not many; and individuality resides not in the mutual exclusion of like continuums, but in the different ways in which the contents of this universal continuum go together within it. For example, my individuality is dependent on the fact that the contents of the consciousness continuum go together in certain space relations and time relations as they do not for you. The contents of experience stand in a certain relation to each other at this particular point in space and time that we agree in calling my organism, and in a somewhat different relation at another point that we agree in calling your organism. It is the standing together, the acting together, of the contents of experience in these diverse ways that constitutes the difference between individual centers of experience, not the mutual antagonism of closed systems. Indeed, all that Professor Woodbridge says of the reciprocally representative character of the objects within the consciousness continuum (cf. pp. 121-122) suggests rather the social character of consciousness than its isolative individualistic unsharable character.

It is important to note, as Professor Woodbridge states and as Professor James has urged, that knowledge is "wholly determined in its content by the relations of the objects in consciousness to one another, not by the relation of consciousness to the object" (p. 122). Since consciousness is simply a generic term for the fact of relationship among the contents of experience, it cannot itself be regarded as in itself a peculiar type of such relationship. "We know what our objects are and what we may expect from them, not at all by considering their relation to consciousness, but to one another. The relation to consciousness is the same with each one of them, expressed by the preposition *in*, and is, therefore, not a distinguishing relation" (p. 122). "The fact, therefore, that knowledge of what objects are depends on the fact that they are in consciousness, in no way determines the nature of objects. We may say, consequently, that the peculiar form of connection or continuity which consciousness constitutes between objects does not affect their nature, but simply makes them known or knowable, and known with all their variety of distinctions from a thing to a thought" (p. 122).

It is true that to say that objects are related to or in consciousness is simply to say that they are objects. But this is not true when the consciousness relation is specified as some particular kind of consciousness relation, *e. g.*, the space relation, the time relation, etc. Per-

ceiving an object, seeing a table, for instance, does make a difference to the object as much as handling it, striking it with a hammer or setting fire to it. It is just the failure to specify this consciousness relation that to the present writer appears to be the source of the realistic implication which Professor Woodbridge finds in the relational theory of consciousness. Consciousness as the abstract form of all relationship does not determine anything, just because here, by definition, all contents have been abstracted from. But since in every specific instance of consciousness the contents of experience go together *in a determinate way*, and this going together *is* their existence as objects, it is no more true to say that the objects are *given* to knowledge than that they are *constituted by or in* the knowledge process.

Dr. Montague in a very suggestive article¹ has stated the methodological drift which has culminated in this relational theory of consciousness. The backward state of the science of psychology is due, as he says, to its persistent use of methodological categories which are elsewhere outworn and discredited. "Every object of study, except consciousness, has first been regarded as a substance, second, as a group of qualities, third, as a relation between other objects. The conceptions of consciousness, however, if we except the theories of Leibnitz and Herbart, have generally alternated between the first and second of these methodological categories" (p. 316).

But that this relational theory of consciousness, which results from applying this third method to the psychological datum, implies a realistic metaphysics, as he maintains, is not so clear. With Professor Woodbridge, Dr. Montague says that "all relations presuppose the existence of terms between which they subsist. If consciousness is at length to submit to the same scientific treatment that we accord to other phenomena — *i. e.*, if it is to be equated to a mode of relation between things — it must inevitably be regarded as secondary to those things. Consciousness, in short, must be thought of as inhering in its objects rather than its objects inhering in it." "If consciousness is a relation, objects of consciousness must be real independently of their standing in that relation, while conversely, if objects are real independently of a consciousness or knowledge of them, then that consciousness or knowledge cannot be anything other than a relation between them" (p. 313).

But this is not being true to the methodological conception of relation as employed in science. There is no more warrant for seeking to

¹ "The Relational Theory of Consciousness and Its Realistic Implications," *Journ. of Philos., Psychol. and Sci. Methods*, Vol. II., No. 12 (June 8, 1905).

reduce the relations to the terms related than for seeking, with the idealists, to reduce the terms to the relations. Why not regard the relations as simply a statement of the *way* in which the terms exist and regard the terms as the statement of the *content* related. Consciousness would then express the *how*, objects the *what* of experience; and this would seem to be the inevitable issue of a relational theory of the nature of consciousness rather than either of the traditional metaphysical views.

In any case, it appears to the present writer that we are in sight of a solution of the problem in the sense that solutions usually are found for philosophic problems — the recognition that it isn't a problem after all but a shadow or ghost of our own faulty dialectic. The metaphysical problems which baffle the synoptic thinker grow out of the exigencies of the development of technique in the special sciences. This problem of mind and matter is a crucial instance. We create our own difficulties, though they are none the less real on that account. The more necessity, however, that the philosopher should be a faithful student of the way of working of the man of science. All method is a sort of hallucination, and we have the task of threading our way out into the sanity of a more self-conscious illusion. We need to recover the original innocence of our naive attitude toward things without losing any of the gains made by dealing with them in the more sophisticated way. The situation appears to be the almost paradoxical one of being at once deluded and perfectly conscious of the delusion. Yet this in a sense in all the ages has been the value of philosophy to man; he has answered his own questions chiefly by discovering reasons why it is irrelevant to ask them.

PROFESSOR STRONG'S THEORY OF CONSCIOUSNESS.

I.

THE LAW OF PSYCHOPHYSICAL CORRELATION.

Professor Höffding has remarked that it would be dangerous for the identity hypothesis if it could be 'demonstrated that the psychical phenomena come *before* or follow *after* the physiological states,'¹ a position which Professor Strong defends at some length in his recent book entitled *Why the Mind Has a Body*.² Apart from the question

¹ *Philosophical Problems*, p. 50.

² Pp. 68 f.

of fact, to which physiology does not seem likely to give a decisive answer for a long time to come, there is an important aspect of the problem on the side of method. Are we to conceive of consciousness as correlated with the entire circuit including the external stimulus, the sensory nerve paths, the brain center, the motor nerve paths and the motor effect in the muscles and in the external world, or as correlated with a restricted portion of the brain process such as the cortex? The ordinary view of biologists and psychologists alike, the view advocated by Professor Strong, is that the 'immediate correlate' of consciousness is some special portion of the brain process. The ambiguity in the term 'immediate' and the tacit implication of the spatial localization of the mental, suggest that this is the basis of the individualistic isolative conception of consciousness which in Professor Strong's book determines the answer given to the abstract problem of the relation between mind and matter.

Psychophysical correlation as a working hypothesis in science is an attempt to give an empirical statement of the relation between the brain and consciousness: it is "an empirical law," says Professor Strong, "on the same level as that of Weber."¹ "This law includes two propositions: first, that consciousness as a whole never occurs except in connection with a brain-process; secondly, that particular mental states never occur except in connection with particular brain-events."²

Let us suppose a situation. I am sitting at my desk looking at the sheet of paper on which I am writing. The paper with the written characters inscribed on it is the material object which at this moment is the visual content of my consciousness. Now imagine that I am a biologist seeking to find the nervous basis in the cortex of this visual experience. In order to do so I must observe my own brain-state. In order to do this let us imagine a vivisectional experiment in which by trephining the skull my own brain-state is laid bare. By a system of mirrors, as Professor Strong suggests, I am now observing my own brain-events.

But it will be objected that if I am looking at my own cortex, I am no longer looking at the paper: the content of the visual experience has changed. In order to obviate this difficulty let us further imagine that by a method of artificial nutrition of the tissues this portion of the cortex is removed from my head and placed on the paper before me. Its vital connections — nervous and the rest — are supposed to be kept intact by artificial devices somewhat as Professor Foster manipulated the circulatory apparatus in his famous experiment.

¹ Pp. 37-38.

² P. 66.

Under these conditions, then, the brain-state which is by definition the neural condition of the perception of the paper, is itself an object of perception in the same visual field with the paper. It is lying in the center of the sheet of paper. The brain-state is in the focus of the field, if you please, and the paper constitutes the margin or background.

In such a case, is it not obvious that consciousness (in this case the visual sensation) is correlated no more directly with the cortex than with the object, no more with the central nervous process than with the peripheral stimulus? No more and no less. Consciousness is the standing-together-in-relation of these two things in this particular way. It is a descriptive term for a certain kind of behavior. It is the way the universe acts at a certain point in space and time. It is the how, the meaning, of these things (which by themselves or in other relations we call physical objects) when they operate on each other. This relational view of the nature of consciousness, as it has recently come to be called, if true, certainly involves a reformulation of the law of psychophysical correlation which connects consciousness *immediately* with the brain-process.

Dr. Morton Prince defends the point of view of Professor Strong, and in reply to a criticism of their common theory, by the present writer,¹ says: "It would seem that it must be owing to his failure quite to grasp the problem that he says: 'It is difficult to see why the brain process, when thus experienced from within, should be called the 'actuality,' while the same brain process when viewed by a second person is only 'the symbol of it.' I may deceive myself, as we are all liable to do, but the reason seems clear to me. What Professor Bawden calls 'the brain process, when experienced from within' is a state of consciousness, say a musical note; but that musical note, when viewed (ideally, of course) by a second person, would be perceived as brain motion, and motion could, of course, only symbolize a musical note" (*Philos. Rev.*, July, 1904, p. 446).

Now the difficulty with the theory represented in this passage is this: it assumes that consciousness is somehow connected exclusively with the brain-state. In order to show more clearly what is conceived to be the error of this conception, suppose we simplify the illustration used by Dr. Prince (without, however, doing any violence to his meaning) by reducing it to terms of the imagery of one sense (vision), instead of two (vision and hearing). Let us suppose that it is a visual experience instead of an auditory experience, that instead of a 'musical

¹ *Philosophical Review*, May, 1904, pp. 312-314.

note,' it is a 'sunset.' Let us analyze the passage thus restated. It would read as follows: "What Professor Bawden calls 'the brain process, when experienced from within' is a state of consciousness, say a sunset; but that sunset, when viewed (ideally, of course) by a second person, would be perceived as brain motion, and motion could, of course, only symbolize a sunset."

Is it not true that the 'brain process' is an arc only in the total circuit, which includes the ether vibrations coming, in this instance, from the sun? Is it not true that the visual 'state of consciousness' here is to be correlated, not exclusively with the 'brain process,' but with the entire system in which *both* 'brain process' and 'sun' (ether vibrations) are factors? If so, then the conscious experience that I call 'sunset' is an event which takes place when there is a certain readjustment between these factors within this dynamic system or circuit.

Let us analyze the illustration a little further. Dr. Prince has said that the brain process when experienced from within is a state of visual consciousness (sunset). "But," he adds, "that sunset, when viewed (ideally, of course) by a second person, would be perceived as brain motion, and motion could, of course, only symbolize a sunset." (These are his words as reconstructed for the sunset in place of the musical-note illustration.) My sunset, when viewed by a second person, he says, would be perceived as 'brain motion' and not as a panorama in the Western sky, and hence can only be symbolic of this panorama: it cannot be said that it *is* the panorama. The brain motion is the symbol of which the panorama is the reality.

But, now, if my consciousness (of sunset) is correlated, not simply with 'brain process' but also with 'ether vibration,' in what sense can it be said that the second person in looking into my brain sees that which to me is the panorama of the sunset? He sees but one factor of the circuit which is the real correlate of my consciousness. If this second person is to 'view' the 'sunset' ('musical note' in the other illustration) which to me is the 'real' panorama, he can only do so by likewise bringing the ether vibrations (as well as my brain motions) into the same circuit with the visual center in his own occipital cortex.

I see sunset when my organism comes into a certain relation with ether vibrations traveling from the sun. *You* see sunset when your organism comes into a similar relation with the ether vibrations. You see *my* sunset only if, in addition to your organism and the ether vibrations, you bring into your organic circuit molecular agitations in my

brain. You do not see the physical basis of my consciousness when you look at the agitations in my brain center alone; you must include the whole circuit, the ether vibrations as well. And if you do this, in what sense is a part of the content of your experience ('brain motions' in my head) any more symbolic of my 'sunset' than the other part (the 'ether vibrations' which you interpret as *your* sunset)? We here would have the interesting result that the content of the experience of one person is symbolic of the content of the experience of another person, that your psychical is symbolic of my psychical, or, if it is insisted that sunsets are something physical, then it would be one physical (yours) symbolic of another physical (mine) — an interesting, but not a startling result. In other words, the illustration does not prove in any way that my sunset is any more real than the brain process which you see in my occipital lobe: they are equally real or unreal, since there must be this common element of the ether vibrations. It is no more true that the brain process which you perceive in my head is a symbol of my experience of the sunset than that the sunset which you experience is the symbol of my sunset. No more true, and no *less* true. Both may be true, but what does it signify?

Of course, you may, if you please, let the brain process which you see in my head stand for the sunset, just as you can let the star on the map stand for the capital of a state, and in this sense the brain process may be said to symbolize the sunset. But this clearly is not the sense in which the word is used by Dr. Prince. In this sense of the term anything may be symbolic of anything else.

Your experience of the sunset, to be sure, is probably different from my experience of it, but this is not more of a problem (and not less of a problem) than the difference between two leaves on the same tree. We see different sunsets because we are different organisms, and, even supposing that our organisms were identical in every other respect, we would see sunsets differently simply by reason of the fact that we occupy different points in space.

The whole difficulty turns on the conception of the nature of consciousness, as shown in this doctrine of the seat of consciousness. Consciousness does not have its 'seat' in the 'brain process,' taken alone. It is not true that the 'state of consciousness' is simply 'the brain process when experienced from within' (words which Dr. Prince quotes from my article). It is this, but it is much more also which Dr. Prince fails to include, which failure, as I see it, is the source of the difficulty in his view and in that of Professor Strong.

II.

THE DEFINITION OF REALITY OR CONSCIOUSNESS.

Professor Strong's definition of consciousness is unsatisfactory and inconsistent with certain of his own arguments. Reality is formally defined as "something that exists of itself and in its own right, and not merely as a modification of something else."¹ Consciousness alone is real, judged by this test, because it "cannot be conceived as a modification of anything else, but exists in its own right."² But "material objects, though in everyday speech we call them real because of their steadiness and independence of our will, are not realities, since they are only abstractions from our consciousness, and require it in order to be conceived."³ "Consciousness exists in its own right." "Consciousness, then, is a reality." "It is the very type of reality . . . the *prime* reality."⁴

In another passage he incidentally admits that "the reality of an object signifies its membership in an order in space and time existing for all similarly organized percipients."⁵ That is, reality means relationship, the fact and the possibility of standing in relations, as Lotze and Green have urged. This view of the nature of reality seems to be implicitly accepted further on when it is stated that "the reality of an object is not identical with the reality of the perception as a mental state; that the reality of the object consists, not in the actual existence of the perception, but in its permanent possibility. . . . This object is not a datum of sense but a construction of the intellect."⁶ 'Construction' by the intellect certainly involves relationships, and it would seem therefore from this passage that the reality of the object is due to the relationships by and in which the object is constructed.

The question is: Which conception of reality does the author mean to stand by as expressing its essence—the idea of existence 'in its own right' or the idea of 'membership in an order'? On the face of the matter these are incompatible views as to the nature of reality, or if not, it behooves him who says they are compatible, to make this fact clear.

The same difficulty appears in his doctrine of things-in-themselves, the ultimate reality. "By 'things-in-themselves,'" says Professor Strong, "I understand realities external to consciousness of which our perceptions are the symbols."⁷ He has already said that "the objects we immediately see and touch are modifications of consciousness."⁸

¹ P. 194.² P. 195.³ Pp. 194-195.⁴ Pp. 199, 203, 210.⁵ P. 225.⁶ Pp. 235-236. ⁷ P. 211.⁸ P. 178.

"We have resolved matter into our perceptions."¹ He holds, therefore, that 'the body is a symbol of a reality external to consciousness.'² That is, certain contents of consciousness which we call physical objects are the symbols of realities which are not contents of consciousness. By symbolizing is meant that they stand for these realities which in their fullness, at least, are not contents of consciousness; they are experienced not immediately but mediately; they are not perceived but inferred. He admits that things-in-themselves not only exist but in addition are 'symbolized by our perceptions.'³

But if things-in-themselves are present in consciousness symbolically, just to this extent they are genuinely present. Is anything ever experienced in any other way? Is not everything that is experienced experienced in terms of the relations in which it stands, *i. e.*, in terms of its reference to something else, *i. e.*, as symbolizing something else? What does one mean when he says he has had an immediate or direct experience of a thing? Does this mean anything except that for a certain purpose or from a certain point of view this is the essence of the thing? And if this is all that can be meant by immediacy, does not everything stand equally condemned at some time or other or from some point of view? If everything that is *in* consciousness is present there only in terms of its relations to other things (*i. e.*, symbolically), this cannot be the distinguishing mark of those realities or things-in-themselves which are said to be *external to* consciousness. Thus the very doctrine of symbolism would drive him to accept a different definition of reality from that with which he formally sets out.

Professor Strong says that "we are dependent for our conception of the nature of reality upon experience,"⁴ yet says that beside the empirical knowledge of science we have metaphysical knowledge, which is 'knowledge of the non-empirical,'⁵ which 'distinguishes the legitimate kind of non-empirical existence, such as other minds, from the illegitimate kinds.'⁶ "Another man's mind," he says, "is in the strict sense of the term a non-empirical existence; something real, yet inaccessible to my immediate knowledge."⁷

But how can something which is non-empirical be real if we are dependent for our conception of the nature of the real upon experience? One stands dumfounded before these two kinds of knowing; one kind of knowing that knows and another kind of knowing that does not know! No wonder the author is driven to add, a few pages further on, that "the relations of things here are a trifle complex.

¹ P. 214.

² P. 212.

³ P. 211.

⁴ P. 284.

⁵ P. 231.

⁶ P. 232.

⁷ P. 216.

. . . We are face to face again with that mysterious phenomenon of doubling . . . a sort of optical illusion."¹ One would have thought that this, together with his 'non-rational leaps,' and the necessity of appealing to 'pre-rational instinct' for links in his argument, would have led to a reëxamination of the presuppositions upon which the argument rests.

III.

THE FALLACY OF HYPOSTASIZING CONSCIOUSNESS AS PROCESS.

Professor Strong hypostasizes the form or process of consciousness as opposed to its content. 'Consciousness itself,'² which he identifies with 'thoughts and feelings' as opposed to 'perceptions,'³ he holds to be more immediate and ultimate than the content of consciousness, than material objects, for example, which constitute the content of our perceptions. "Consciousness," he says, "is the only reality of which we have any immediate knowledge."⁴

In an article in *Mind*⁵ Professor Strong narrows down the term 'consciousness' still more, virtually making it synonymous with reflective cognition. This he illustrates by two types of experience: experience of 'pain' and experience of 'blue.' "When we contrast a pain with our consciousness of it, the fact we refer to by the 'consciousness' is these supernumerary thoughts" about the pain.⁶ "The existence of the mental state is . . . entirely independent of the intellectual consciousness by which we reflectively apprehend it. But the existence of the mental state is by no means independent of consciousness in the sense of feeling. . . . Material objects, like mental states, exist as feelings."⁷ Hence "the existence, side by side with the function of thought, of a function which we may call feeling: the difference between the two being this, that by the function of thought we are made aware of things other than the consciousness of them, while in feeling we are immediately aware of the concrete nature of the feeling itself."⁸

Similarly in the case of the experience of 'blue,' when one distinguishes between blue and the consciousness of it, the contrast is "that between blue as an immediate experience and certain thoughts that he has about it." "In other words, the 'consciousness' of the blue is the consciousness of its relations to other things."⁹ "So far as sensation is unaccompanied by thought, we are not aware in it of anything distinct from our own states of mind."¹⁰

¹ P. 248.

² Pp. 194-195, 207.

³ Pp. 214, 286.

⁴ P. 295.

⁵ April, 1905, p. 175 f.

⁶ P. 175.

⁷ P. 176.

⁸ P. 180.

⁹ P. 181.

¹⁰ P. 183.

These passages bring the problem of the nature of consciousness to a focus: Is consciousness fundamentally cognitive in character or is there an aboriginal element more simple than we call feeling? Is the difference between feeling and cognition one of kind or only one of degree? Professor Strong holds that "by the function of thought we are made aware of things other than the consciousness of them," namely their "relations to other things."¹ The crux of the difficulty is in the word 'aware.' Later he says: "The fact that we are not aware of, in the sense of immediately experiencing, that which we think is perhaps most clear where what we think of is another person's mind."² And "the case of other minds is the type of all cases of objects of thought: *Whatever is thought of is eo ipso absent and merely represented, and never in any case given as an immediate experience.*" "The only way to be *really* (*i. e.*, not representatively) aware of ourselves is to have (= be) the thoughts and feelings in which our being consists."³

This is the culmination of the abstraction; process and content of consciousness are at last completely divorced. Here at least we may see the methodological implications of the attempt to separate the *what* from the *how* of experience. We are to think a content ('another person's mind') without that content in any way reacting into the way in which we think it. That upon which we think in no way affects the thinking. Judgment has no relation to judging; what is cognized bears no relation to the cognitive experience.

It is not without significance that the most general term for the relations in which the contents of experience stand is derived from a word which expresses the knowledge relation: *con* + *sciousness*. Attempts have been made to substitute the term 'sentiency' but they have not been successful. Even this term, moreover, has in it a cognitive element. In spite of all the attempts to keep them apart by tripartitists and bipartitists alike, the element of awareness runs through all mental states, and this would seem to be sufficient justification of the use of a term expressing the knowledge relation as the general term for all conscious states. We more frequently speak of a 'painful feeling' and even of a 'blue sensation,' and not of a painful idea or a blue concept, simply because in *thought* the distinction between the two has been made explicit in terms of the imagery of objective control, whereas in *feeling* it is still implicit or only vaguely stated in terms of those total reactions characteristic of the inchoate imagery of emotion.

The psychological paradox of solipsism which puzzles Professor

¹ P. 180-181.

² P. 185.

³ P. 185.

Strong and so many other writers grows out of just this separation of the process and the content of consciousness. One writer says: "No direct apprehension of conscious life is possible to any one but the subject of that life,"¹ and if it is true that the individual can have no knowledge of external reality save through the affections of his own consciousness, of course the whole epistemological problem is upon us. "How can a particular individual be in such relation to a reality which transcends and includes his own existence as to know it?" asks Professor Stout.² How solve this "paradox that what is evidently one reality should be in two places at once, both in outer space and in a person's mind?" asks Professor James.³ How is it that the percept of a big tree gets into the little head of a man?

In an article on 'Idealism and Realism' in the *Journal of Philosophy, Psychology and Scientific Methods*,⁴ Professor Strong indicates his position quite clearly: Common sense says that the tree I see is a reality external to my mind. But physiology shows us that my perception varies with my brain-state: it may be an hallucination. How then can I be sure that there is any external tree? We seem to have three things to deal with: the tree, the perception of the tree, and the brain-state. We are then in the following dilemma: *either* we must suppose that the perception varies at once with the brain-state and at the same time with the tree, which is contrary to fact in such a case for example as that of the hallucination, *or* we must suppose that while the tree is really there we never directly experience it but something which stands for it—a mental image represented by the brain-state. Does not the mistake lie in assuming the extra-bodily tree to be *without* the mind,⁵ neglecting to observe that the object (tree) is only another name for the perception (the content of the perception), consciousness (the perceiving) being simply a name for *the way* in which we experience this content?

In his book⁶ Professor Strong says: "I do not make an object more real by deigning to perceive it." "Suppose a pane of yellow glass," he says, "to be interposed between the object and the eye: the result is to alter the brain-event in the sense of yellowness, without producing any change in the object." "Under these circumstances the object is seen yellow: which shows that the perception varies with the brain-event, and not with the object."⁷

¹ Solomon, *Mind*, January, 1905, p. 82.

² Stout, in Sturt's *Personal Idealism*, p. 3.

³ *Journal of Philos., Psychol. and Sci. Methods*, September 1, 1904, p. 481.

⁴ September 15, 1904, p. 524.

⁵ P. 525.

⁶ P. 237.

⁷ P. 174.

But this is surely a mistake. To mention nothing else, the object certainly is different just to the extent that now it has a pane of glass in front of it, and if this be a pane of 'yellow' glass this means that certain rays of colored light are intercepted. Surely, it makes a difference to an object if its relations to the dynamic system of nature are altered in however slight a degree.

The fundamental error lies in supposing that perception, or that any conscious experience, is a process connected exclusively with brain-events. These constitute simply one phase or arc in the total circuit which embraces the object perceived as well as the perceiving organism. And to add the assertion that "the very existence of the object in any given case is a doubtful inference, which not the single perception but only the concordance of many can justify,"¹ is to beg the whole question, for the relation of the object perceived and the subject perceiving would be the same even though all the so-called perceptions should prove to be hallucinations. Hallucination is not a peculiar form of perception in which there is no object perceived: there is always an object as the content of perception. The difference is that in a hallucination the object does not conform to the demands of *other* habits of perception. The assumption of 'some kind of two-fold existence of the object'² is entirely unnecessary. The fact that physical science states the object in terms of molecules and atoms, of light rays or vibrations of the ether, the fact that physiology states the object in terms of the retinal image and neural changes in the cortex, in no way militates against the introspective evidence that we know the object 'face to face.' The truth is that these are each of them only partial statements of the nature of the object. Mr. Ward has forever laid this fallacy in the following passage from his *Naturalism and Agnosticism*:³

"Imagine two physicists saying, 'Here is a magnet; it has contrary properties at opposite ends. Let us divide and conquer.' 'I will take away the south pole to my laboratory and investigate that,' says the one; 'and I will do my best with the north pole in mine,' rejoins the other. This is what happens when psychologists propose to study internal experience, and naturalists external experience, exclusively. Our imaginary physicists when they get to work find, the one that a north pole, the other that a south pole, has turned up at the fracture of the original magnet. The psychologist in like manner finds objective elements in his internal experience; but he calls them subjective modifications, and the physicist in external experience finds

¹ P. 175.² P. 172.³ Vol. II., pp. 198-199.

subjective elements, but he calls them laws of nature. When the imaginary physicists meet again and join up the magnet, each is puzzled to know what is gone with the new pole that he had discovered. Similarly with the psychologist and naturalist: except that the joining up is here the serious business. All your side is subjective modification, says the psychologist, perhaps. No, all your side is laws of nature, the naturalist then replies. Or, the psychologist, having treated intelligence, in sensationalist fashion, as a mere outgrowth of isolated individual experience, and the naturalist having treated universal experience as mere nature divorced from mind, they agree that the objects of one are copies, the objects of the other originals, and then comes the riddle of their extraordinary correspondence."

"What each one immediately deals with in experience is objective reality in the most fundamental sense. But first it was styled a picture or impression; probably because on the retina of the percipient an optical image of the things he looks at can be seen by another. Then, when the progress of science showed that our so-called sensory impressions cannot be literal representations, or copies, they lapsed into vicarious representations, or symbols, of the objects of universal experience. Finally came the vexed question: How does the individual or how do any number of individuals, all confined to vicarious-symbols, attain to an acquaintance with the real originals assumed to lie beyond?"¹

IV.

THE INDIVIDUALISTIC CONCEPTION OF CONSCIOUSNESS.

For Professor Strong consciousness is essentially individualistic. There are no inter-mental breezes blowing, as one of his critics has said. Each person is forever limited to the circular panorama of his own consciousness.² Minds are mutually exclusive. "I can have no rational ground for assuming that anything whatever exists outside my mind."³ The argument from analogy with my own acts involves a fallacy, since, while the thoughts and feelings which give rise to *my* movements are immediately given, those which give rise to other people's movements are not given.⁴ "In short, it is in the nature of the case impossible that consciousness should supply rational grounds for the inference of realities beyond itself."⁵ Hence the necessity to which his argument is put of making a 'non-rational' leap⁶ to a world of things-in-themselves in order to save the theory from solipsism. My belief in the existence of other minds than my own, says Professor Strong, is grounded in 'some deep pre-rational instinct.'⁷

¹ *Op. cit.*, Vol. II., p. 155.

² Cf. pp. 215-216.

³ P. 218.

⁴ P. 217.

⁵ P. 218.

⁶ P. 273.

⁷ P. 274; cf. p. 219.

But Professor Strong has already admitted that we can be conscious of these 'realities beyond' symbolically, mediately; he only denies that we are conscious of them immediately. And we have seen that not only is symbolic existence genuine existence as far as it goes, but that reality is *known* in no other way than by symbols. Is it not then philosophical suicide to seek to carry back the knowledge of other minds to an 'instinct'? Unquestionably knowledge is always more instinctive than it is rational, reason being indeed nothing but the mediation of instincts, but is this not a precarious foundation upon which to rest the whole superstructure of the argument? Professor Strong accepts the view of contemporary psychology that 'mind equals consciousness'¹ and says that 'our essence lies . . . in being conscious.'² But if consciousness is reality, and material objects (perceptions) as well as thoughts and feelings are part of its content, why not stand by the facts? Better frankly be a solipsist, a thorough-going phenomenalist, than fall back on this mystical appeal to the instinctive and the pre-rational.

Professor Strong says:³ "Of course consciousness is not a *permanent* reality, since it is subject to interruptions." But, he adds, "so long as it lasts, it is as real as anything can be. It is the very type of reality, an integral part of the universe of things. Moreover, it is for each of us the *prime* reality — the one part of that universe with which he has immediate contact." "In our experience of our own minds we have immediate contact with a little portion of the real universe." "If consciousness is a reality, we have the premise we needed for the inference of other realities beyond it."

But if in consciousness we do experience reality as it really is, what more can we wish for? He cannot mean just what he seems to say, for if in my own consciousness I do experience reality as it really is, I must, among other things, experience it as social in its nature, which he does not admit. He regards each individual consciousness as somehow particularistic and as becoming social by a 'non-rational' inference or leap in the dark. But experience is more fundamentally social, if anything, than individualistic in character. When something occurs outside of my organism, such as the discharge of a cartridge of dynamite in a stone-quarry, we all, if we are near enough, may share in hearing it and in seeing the rocks fly into the air. If a chemical change occurs in the blood which irrigates the tissues of my body I alone feel the fever and the pain: that is, I alone feel it directly; sympathetic friends may suffer with me indirectly, if my fever and

¹ P. 33.

² P. 203.

³ P. 210.

pain find overt expression. Since, however, the greater part of the objects and events which make up the content of my experience are extra-organic and a large part of those which take place within the organism are communicable by some mode of motor expression, it follows that experience is more fundamentally social than it is isolative in character. The fact that the mental world is the one which is conceived in an individualistic way, while the material world is the sharable social world of our common experience, suggests at once the origin of the distinction and its legitimate function in present experience.

Professor Strong says that the *memory* of my past experience is a transcending of my immediate experience as much as my knowledge of the existence of other conscious personalities. The example illustrates too well. If the experiences of other persons is as organic with mine as in memory my past experience is with the flying moment of my present consciousness, then there is no difficulty. Interpret memory and association as habit, and interpret the relation of my consciousness to another consciousness in analogous terms, and you get rid of this specious problem.

V.

SPIRITUALISTIC EPIPHENOMENALISM.

It is only upon such an individualistic conception of the nature of consciousness that it would be possible to erect a metaphysics such as that presented to us by Dr. Prince and Professor Strong. Reality, they aver, is ultimately mental in its nature: there is but one reality which each individual envisages in his own consciousness.

"There is only one process," says Dr. Prince, and this process is psychical.¹ The argument of Dr. Prince is as follows: Your brain-state is a part, a content, of my experience. It is an object of my perception, not of yours. For you this brain-state *is* consciousness; for me it is an object or process of change in what I call the material world, *i. e.*, in your brain which is a part of the objective world of my perception. "In other words, a mental state and those physical changes which are known in the objective world as neural undulations are one and the same thing, but the former is the actuality, the latter a mode by which it is presented to the consciousness of a second person."² "The thing-in-itself we know nothing whatsoever about, and therefore we are not justified in making any assertions about it at all. Beyond our own sensations of grayness, of hardness, of smell, etc., we know no more what a molecule of protoplasm, or any other molecule, *really* is — we know no more what the molecule-in-itself is — than we

¹ PSYCHOLOGICAL REVIEW, November, 1903, p. 653.

² P. 561.

know whether angels' wings are tied with pink ribbons or blue ribbons."¹ It might be asked: If we are thus ignorant concerning the ultimate nature of things, how does Dr. Prince justify his conviction that reality ultimately is psychical?

Professor Strong likewise says that his view is panpsychism. The body is the 'symbol' of a reality external to consciousness, this reality being itself other consciousness.² The physical objects which are the content of my consciousness are the 'shadows' cast upon my consciousness by your consciousness (which as such I can not experience).³

But if reality in its truest form is the consciousness that I immediately experience, and this, by reason of the very fact that I do thus immediately experience it, is what we mean by the psychical, by what right is this character read over into things-in-themselves (other persons) which by definition are not experienced immediately by me? If this immediacy of my experience is just what we mean by the psychical, then by attributing this character to things-in-themselves I am bringing them into the immediacy of my consciousness, in which case they are no longer other selves or other consciousnesses, on Professor Strong's theory, but simply contents of my consciousness. Is not this an illegitimate generalization of a category which by definition gets its meaning from the very fact that it is not general but particular?

Again, the physical world, according to our author, is properly 'a perceptual datum.'⁴ But what is the justification for calling the 'perceptual datum' mental rather than physical? The term 'physical object' is just the term which has been set aside to express what is meant by 'perceptual datum.' The fact that science has erred in its assumption of the ontological dualism of mind and matter is no reason for denying the real methodological duality which does exist. It assuredly is no reason for asserting that primary and secondary qualities (*i. e.*, that the properties of matter) are wholly mental.⁵ It is the ground only for the assertion that they represent a functionally distinct aspect of a common existence. Moreover, Professor Strong grants that "perception and perceptual brain-event are *in some sense* correlated."⁶ But why only in the *mental* world? What is gained by the denial of the equal reality of the physical world? The really "amazing thing about this argument," as Professor Alexander has said,⁷ "is that any one could fail to see that it is based upon tacit assumption of knowledge of that very extra-conscious world the possible existence of which it is so strenuous to deny."

¹ *Brain*, 1891, p. 262.

² P. 212.

³ Pp. 283, 309-310.

⁴ P. 180.

⁵ Pp. 180-181.

⁶ P. 181.

⁷ *Journ. of Philos., Psychol. and Sci. Methods*, I., p. 120.

This theory of Dr. Prince and Professor Strong is really a spiritualistic epiphenomenalism — a neat turning of the tables on Huxley's materialistic form of the doctrine. In the one, consciousness is an epiphenomenal accompaniment on brain-states; in the other, brain-states are mere shadows thrown by one consciousness upon another consciousness.

VI.

PSYCHICAL CAUSALITY.

One of the most puzzling developments of the recent discussion of the relation between the two realms has been the extension of the parallelism to causality itself — a belief, in the words of Professor Santayana, "that the mental world has a mechanism of its own, and that ideas intelligently produce and sustain one another."¹ This is one of the chief arguments upon which Professor Strong relies and must not be omitted in the attempt to estimate his theory of the nature of consciousness.

The difficulties which exist on Professor Strong's theory will be patent to those who have read his book carefully and have kept in touch with the controversy which has centered about his argument. It may be briefly recapitulated here: After having laid down the premise that "material objects exist only as modifications of consciousness,"² he proceeds to discuss the possibility of things-in-themselves. By things-in-themselves he means, as we have already seen, "realities external to consciousness of which our perceptions are symbols."³ These external realities are extra-mental, yet, he insists, they are indirectly known. We have a "mediate yet authentic knowledge of them."⁴ He does not show how they can remain extra-mental in spite of our having this knowledge of them. He meets this difficulty by saying that things in themselves are unknowable and therefore presumably extra-mental "only in the sense that they are inaccessible to perception or immediate experience" (as opposed presumably to 'thought').⁵

It is on just this, his theory of perception, that his doctrine of a two-fold causation rests. The distinction is repeatedly made between 'consciousness itself' and its 'modifications,' it being held that "consciousness exists in its own right" and is therefore real.⁶ He distinguishes between "mental facts which are thoughts and feelings and mental facts which are perceptions of matter." "We have resolved matter into our perceptions, and the mind into a series of mental

¹ *Reason in Science*, p. 150.² P. 194.³ P. 211.⁴ P. 234.⁵ P. 233.⁶ Pp. 194-195.

states."¹ "A perception, again, is a phenomenon as the symbol of an extra-mental reality, but in itself as a state of consciousness it is real."² "The reality of the object is not identical with the reality of the perception as a mental state."³

The question to be asked is, whether it is legitimate thus to abstract perception as a mental state from the object or content of the perception, since, by hypothesis, 'objects exist only as modifications of consciousness'? Yet it is upon this abstraction that the duality of the causal relation is made to depend. A reference to one of the author's illustrations will make this point clear. "Suppose I will to move my arm," he says, "and the movement happens. The movement exists only as a perception. Now, while we affirm the volition to be the cause of the movement, we absolutely deny it to be the cause of the perception of the movement."⁴ He supports this by appealing to physiology: "For, physiologically, the movement is one event and the perception of it another, subsequent to the first in time" and involving a different nerve-loop.⁵

Now this argument is possible only by disloyalty to positions which he has himself previously established. If 'material objects exist only as modifications of consciousness,' then the 'movement,' in the illustration, exists only as such a modification. The modification of consciousness in such a case would be what we call perception. The movement, then, would exist only as the perception of the movement: the *esse* = the *percipi*. The appeal to physiology is a vicious circle. If movement, in this case changes in organic behavior, exists only as perceptions, then the whole science of physiology exists likewise only as the science of such perceptions, and it is not possible to hold that 'the movement is one event and the perception of it another, subsequent to the first in time.'

It is the old fallacy of hypostasizing an abstraction. He first says that objects exist only as modifications of consciousness, and then takes it all back in the statement that *consciousness itself* is something different from its modifications and may have an existence by itself and a causal law of its own. 'Consciousness itself,' 'perception as a mental state,' is a sheer abstraction when taken apart from its 'modifications,' when taken apart from its content of 'material objects.' It follows that the distinction between real and phenomenal causation, which is based upon this abstraction, falls to the ground.

¹ P. 214.

² Pp. 245-246.

³ P. 209; cf. 286.

⁴ P. 246.

⁵ P. 235.

PSYCHOLOGICAL LITERATURE.

MIND AND BODY.

L'Ame et le Corps. ALFRED BINET. Paris, E. Flammarion, 1905.

In Book I., entitled 'Definition of Matter,' the external world is reduced to a mere complex of sensations. We cannot go beyond sensations. They are the only reality we know. The term 'sensation' is employed here somewhat as Locke used the term 'idea' and as Bergson uses the term 'representation,' to express any and every kind of experience on the side of its content, without implying that it is either physical or mental.

Physicists in their attempt to give a precise account of the material universe have reduced its phenomena to terms of certain modes of experience which are most directly quantifiable, in their enthusiasm even sacrificing that accuracy of which it is their chief boast to be the exponents. Light, heat, electricity, sound, motion, are all stated in terms of visual and tactile-kinæsthetic sensations. But why, Binet asks, should sound be stated in terms of sight and touch? What would the tuning-fork or the ear be in terms of auditory sensations? Because they lend themselves to scientific experiment and measurement, visual and tactile-kinæsthetic sensations have become the exclusive imagery of science, but theoretically there is just as good reason for holding that the real world is sound or odor and that it manifests itself in visual and tactile-kinæsthetic terms, as to hold that it really is made up of atoms or energy and manifests itself in the form of sound, odor, temperature, color, etc.

The hegemony of the hand and eye in science is therefore a purely methodological superiority and primacy. Why should one kind of sensation represent the real any more truly than any other? There are no primary and secondary qualities: all sensational experiences are equally real and equally false or equally true. No special group may be taken as giving a more faithful picture of the real nature of matter. The mechanical theory of nature is thus brought under suspicion. It has neglected to reckon with that most obstinate immediate fact—the observer himself—which, properly speaking, is the distinctive datum of psychology. But this perceiving subject or observer can in turn only be stated in sensational terms: the subject is but an object in disguise.

The distinction between mind and matter therefore cannot be carried back to the distinction between sensation and the physical excitant, for the excitant is known only in terms of sensation: the supposed distinction reduces to a distinction between different kinds of sensations.

One of the most serious difficulties which this view encounters is the apparent interpolation of the nervous system between the perceiving subject and the external object. The objection seems to be supported by the doctrine of the specific energy of nerves, in which theory it is implied that the sensation derives its character from the nature of the sense organ or brain process and need not resemble its physical stimulus in the external world. It is apparently supported also by the fact that the nervous system itself can only be known through the nervous system. And the difficulty is further complicated by the fact that whereas the nervous system appears to be the essential prerequisite of having any sensations whatever, yet the nervous system of any perceiving subject is never known by himself in such terms.

This difficulty is met in two ways: first, by denying the existence of a 'perceiving subject' in the sense which the objection implies; and second, by the hypothetical consideration that the nervous system in perception remains unperceived only because it is a constant factor in the situation, whereas the external stimulus is perceived because of its variable character.

Book II., the 'Definition of Mind,' is devoted to the attempt by a critical analysis to get rid of the ambiguous concept of a psychical subject. The author makes an inventory and analysis of consciousness viewed as process or activity. He finds of course that the only terms in which he is able to describe consciousness are those of the physical or material content. He accordingly is led to define sensation, image, idea, emotion, volition, as purely physical or physiological phenomena. Sensation, he says, is not a means of knowing the physical properties of matter; it *is* these properties. Since he rejects any noumenal thing-in-itself, he finds, therefore, that the distinction between the mental and the physical vanishes; he appears to swamp the whole universe now in the psychological categories.

He saves himself, however, from this apparent conclusion from his argument by a distinction between the object of consciousness and the act of consciousness. If matter refers to the content or object of sensation, it does not follow for Binet that the mental refers to an experiencing subject or self. Mind is not something which is conscious (this would only be a covert commitment to realism), but is the fact of being conscious or, as we would say, the *How* as contrasted

with the What of sensation. Mind is the generic name for the act or process of experience as opposed to its content or object. The mental is not an existence, a subject; such a subject could only be known as are other contents of experience in sensational or ideational terms, as an object among other objects, whereas the mental as such is rather the subject-object relationship.

The problem of mind and matter is, he says, not so much how they came to be identified as how they ever came to be separated, since for the naïve point of view there is no such dualism. His error lies in the supposition that while it is impossible to isolate consciousness from its content, it is quite possible to isolate the content or object of consciousness; or, in his language, consciousness cannot exist apart from sensation, but sensation may exist apart from consciousness. This leads him to attribute an independence and completeness to sensation or matter which he denies to consciousness or mind.

The mental thus stands for an adjusting activity; it is the still incomplete world of our experience. And psychology is itself a science of matter, *i. e.*, the science of that portion of the total complex of our sensations which has the property of preadjustment.

But Binet does not feel the full force of his own argument in certain places where, for example, he maintains that the stimulus may act independently of consciousness whereas consciousness has no existence independent of the object. In short, matter (complex of sensations) may exist apart from mind, but mind may not exist apart from matter. He slips into a realistic way of speaking when he says that our consciousness does not in knowledge add anything to the object. The relations belong to the object; they are given in the object independently of consciousness.

In Book III., the 'Union of Mind and Matter,' the author discusses the four leading theories: spiritualism, materialism, parallelism and Bergson's theory. He finds himself with certain qualifications in closest accord with the last of these. He rejects Bergson's view that the nervous system is merely an equating apparatus because it implies that consciousness is not directly correlated with the brain. But he agrees with this writer in his rejection of the other three views and seeks to supplement what he regards as the defect in Bergson's view by an original speculation with regard to the function of the nervous system in relation to consciousness. This, in a word, consists of supposing that the nervous system contains a constant as well as a variable element. The variable element is that supplied by the external excitant. This, as the changing factor, elicits consciousness, in accordance

with the general law of change as the condition of consciousness. The constant factor is that supplied by the nervous system itself which because of its uniformity remains unperceived even in the act of perception in which it is directly operative.

Life and Matter; a Criticism of Professor Haeckel's 'Riddle of the Universe.' Sir OLIVER LODGE. London, G. P. Putnam's Sons, 1905.

This little book aims not only to be 'an antidote against the specific and destructive portions of Professor Haeckel's' work, but attempts to 'confute two errors which are rather prevalent'; namely: (1) "The notion that because material energy is constant in quantity, therefore its transformations and transferences — which admittedly constitute terrestrial activity — are unsusceptible to guidance or directing control"; and (2) "The idea that the specific guiding power which we call 'life' is one of the forms of material energy; so that, directly it relinquishes its connection with matter other equivalent forms of energy must arise to replace it" (preface).

With the arraignment of Professor Haeckel's so-called scientific monism which, when consistent, appears to be a crude form of materialism, most students of science and philosophy will agree. But with certain of the positions which the author puts forward to take the place of the discarded materialism there will be less agreement.

The author, while holding that the conservation of energy is a sufficiently legitimate generalization, a reasonable hypothesis, yet admits that it is not an experimental fact; the discovery of new forms of energy is possible in the future which will involve a restatement of the law. But, after all, he says, this is not especially important, since in any case the doctrine that the amount of energy is constant is quite compatible with guidance, control or directing agency (p. 20). This idea contains the main thesis of the book: that life and mind may belong to a transcendent realm (*i. e.*, to a world of facts not yet discovered by science) and that they may have directive power without having causal efficiency. "I maintain," he says, "that life is *not* a form of energy; that it is *not* included in our present physical categories; that its explanation is still to be sought." Life 'is a guiding and controlling entity' which nevertheless 'alters the quantity of energy no whit' (pp. 116-117). "Guidance of matter can be effected by a passive exertion of force without doing work" (p. 144).

Especially unsatisfactory to the student of philosophy is the naïve realism of Sir Oliver's position, which indeed is in this respect little

improvement upon the doctrine which it criticizes. "The universe is in no way limited to our conceptions: it has a reality apart from them" (p. 82). His thoughtless citation of Berkeley, that what we call matter and motion are known to us only as forms of consciousness (p. 58), and his own statement that 'it is through the region of ideas and the intervention of mind that we have become aware of the existence of matter,' that the realities underlying our sensations 'are only known to us by inference' (p. 94), that 'matter is the instrument and vehicle of mind' (p. 104), all illustrate the logical confusion which results from the use of unanalyzed concepts even by a distinguished man of science.

This of course determines the attitude which he takes toward the mind-matter controversy. Music must exist, he says, before and apart from an organ or instrument to express it. Indeed it is the agency which fashions the means of its own expression. "The soul of a thing is its underlying, permanent reality, that which gives it its meaning and confers upon it its attributes. The body is an instrument or mechanism for the manifestation or sensible presentation of what else would be imperceptible" (p. 100).

This spiritualistic metaphysics also prevents him from seeing any truth whatever in Haeckel's definition of the soul as 'a sum of plasmamovements in the ganglion cells' or of God as the operation of the evolutionary process and 'the infinite sum of all natural forces' (p. 101).

The book is an interesting and well-intended but disappointing attempt to reconcile the categories of exact science and humanistic idealism.

H. HEATH BAWDEN.

VASSAR COLLEGE.

BOOKS RECEIVED FROM SEPTEMBER 5 TO OCTOBER 5.

An Outline of the Theory of Organic Evolution. MAYNARD M. METCALF. 2d ed. rev. New York, Macmillan Co., 1906. Pp. xvii + 212.

Deutsche Skeptiker: Lichtenberg; Nietzsche. (Zur Psychologie des neueren Individualismus.) ROBERT SAITSCHICK. Berlin, E. Hofmann & Co., 1906. Pp. vi + 259.

Französische Skeptiker: Voltaire; Mérimée; Renan. (Zur Psychologie des neueren Individualismus.) ROBERT SAITSCHICK. Berlin, E. Hofmann & Co., 1906. Pp. vi + 304.

The Time of Perception as a Measure of Differences in Sensations. V. A. C. HENMON. (Arch. of Philos., Psychol. and Sci. Methods, ed. by J. McK. Cattell and F. J. E. Woodbridge.) New York, Science Press, 1906. Pp. 75.

Annual Reports of the Department of the Interior, 1904. Commissioner of Education. Vols. I., II. Washington, Govt. Printing Office, 1906. Pp. civ + 1176, vii + 1177-2480.

Studies in Philosophy and Psychology. A Commemorative Volume, by former students of CHARLES EDWARD GARMAN. Boston and New York, Houghton, Mifflin & Co.; Cambridge, Riverside Press, 1906. Pp. xxi + 411. \$2.50 net.

Leib und Seele. R. EISLER. Leipzig, Barth, 1906. Pp. 217. M. 4.40.

Essay on the Creative Imagination. TH. RIBOT. Trans. by A. H. N. BARON. Chicago, Open Court Publ. Co., 1906. Pp. xix + 390.

Space and Geometry in the Light of Physiological, Psychological, and Physical Inquiry. E. MACH. Trans. by T. J. McCORMACK. Chicago, Open Court Publ. Co., 1906. Pp. 148.

Luis Vives y la filosofía del Renacimiento. A. BONILLA Y SAN MARTIN. Madrid, Imp. del Asilo de Huérfanos, 1903. Pp. 817.

Bibliografia Vichiana. B. CROCE. (A bibliography of editions, translations, and MSS. of the works of G. Vico.) Naples, University Press, 1904. Pp. ix + 127.

Two-Legs. CARL EWALD. Trans. fr. Danish by A. T. DE MATOS. New York, Scribners, 1906. Pp. 148.

NOTES AND NEWS.

DR. EDOUARD ZELLER, the eminent writer on the history of philosophy, recently celebrated the seventieth anniversary of his doctorate.

DR. KUNO FISCHER has retired from the professorship of philosophy at Heidelberg University.

MR. CHARLES B. McMULLEN, A.M., has been appointed temporary assistant in the psychological laboratory at Princeton University, during his year's leave of absence from Tarkio University.

THE following is taken from the press :

MR. ROWLAND HAYNES, lately assistant in philosophy at Columbia University, has been appointed associate in philosophy at the University of Chicago for the ensuing year. He is to have courses in philosophy, ethics, psychology, and logic during the absence in Europe of Associate Professor A. W. Moore.

